

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/007869 A2**

- (51) International Patent Classification<sup>7</sup>: **C12Q** WI 53528 (US). CHEHAK, LuAnne [US/US]; 4430 Saratoga Drive, Janesville, WI 53546 (US).
- (21) International Application Number: **PCT/US2004/023014** (74) Agents: BROW, Mary, Ann, D. et al.; Medlen & Carroll, LLP, 101 Howard Street, Suite 350, San Francisco, CA 94105 (US).
- (22) International Filing Date: **9 July 2004 (09.07.2004)**
- (25) Filing Language: **English** (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (26) Publication Language: **English** (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (30) Priority Data:  
60/486,273 10 July 2003 (10.07.2003) US  
60/535,747 12 January 2004 (12.01.2004) US
- (71) Applicant (for all designated States except US): **THIRD WAVE TECHNOLOGIES, INC.** [US/US]; 502 South Rosa Road, Madison, WI 53719-1256 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **OLSON-MUNOZ, Marilyn, C.** [US/US]; 5878 Tree Line Drive, Madison, WI 53711 (US). **CURTIS, Michelle, L.** [US/US]; 2740 Nadene Road, Cottage Grove, WI 53527 (US). **IP, Hon, S.** [US/CA]; 6310 Pilgrim Road, Madison, WI 53711 (US). **KWIATKOWSKI, Robert, W., Jr.** [US/US]; 506 Azurene Lane, Verona, WI 53593 (US). **ARMANTROUT, Kyle, C.** [US/US]; 11515 Rochester Avenue #102, Los Angeles, CA 90025 (US). **CAO, Feng** [US/US]; 2428 N. 111th Street, #6, Milwaukee, WI 53226 (US). **HURWITZ, Bonnie, L.** [US/US]; 1502 Cameron Drive, Madison, WI 53711 (US). **MACHMEIER, Daniel, K.** [US/US]; 4003 Valley Ridge Road, Middleton, WI 53562 (US). **OLSON, Sarah, M.** [US/US]; 2968 Thinnes Street, Cross Plains,

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **ASSAYS FOR THE DIRECT MEASUREMENT OF GENE DOSAGE**

(57) **Abstract:** The present invention relates to compositions, methods, and kits for quantifying variations in gene copy number, e.g., of individual genes or of chromosomes or portions of chromosomes in an homogeneous reaction, without the need for target amplification, fragment size resolution, or microscopy.

BEST AVAILABLE COPY

WO 2005/007869 A2